AirMagnet Surveyor Version 2.5 (Patch)

Release Notes

September 26, 2005

Table of Contents

- Product Description, page 1
- New Features, page 1
- System Requirements, page 2
- Supported Wi-Fi Devices, page 3
- Important Notes, page 4
- Installation Procedures, page 5
- Product Registration, page 8
- Release History, page 9
- Known Issues, page 10
- Software Upgrade, page 10
- Special Note, page 10
- Technical Support, page 11
- Instructions for Using the New Features, page 11

Product Description

AirMagnet Surveyor is a powerful and easy-to-use survey tool that provides WLAN professionals with everything they need to perform scientifically accurate site surveys of any 802.11 a/b/g wireless network. This *Release Notes* covers all new features and enhancements that have been made since the previous release as well as some known issues. It also contains instructions on how to use those new features.

New Features

- Customer Data Processing Resolution
- Sensor Deployment Tool
- List of APs Covered by Individual Sensors
- List of APs Not Covered by Any Sensor
- Sensor Deployment Reports

The following are the major feature updates or enhancements for AirMagnet Surveyor 2.5 release:

1. **Custom Data Processing Resolution**

   This feature allows the user to customize the resolution that the AirMagnet Surveyor uses to process/display survey data. The value ranges from 1 to 10, with 10 being the highest. The higher the value, the better the data display resolution; the higher the resolution, the longer it takes to process/display the data. For instructions on how to customize data process resolution, see page 12 of this *Release Notes*.

2. **Sensor Deployment Tool**
   This tool automatically determines the number of AirMagnet SmartEdge Sensors that are required as well as their suggested locations based on existing site RF environment data collected through a survey. All the user has to do is to load a survey data file and specify (select) what he/she wants to achieve with the Sensor deployment option. Then with just a few clicks of the buttons on the screen, the program will configure and display the best possible sensor deployment plan right on the screen. With this simple and easy-to-use tool, Sensor deployment has never been made easier. See page 9 for instructions on how to use this tool.

3. **List of APs Covered by Individual Sensors**

   This feature allows the user to easily visualize the APs that are covered or not covered by a sensor or sensors. With this tool, users can experiment with different Sensor deployment scenarios from their desktop to figure out the most efficient Sensor deployment scheme. For instructions on how to use this feature, see page 13 of this *Release Notes*.

4. **List of APs Not Covered by Any Sensor**

   It displays information about each and every AP that is not covered by the Sensor or Sensors according to the survey data. It provides a quick and simple way for WLAN professionals to identify and rectify Sensor coverage issue. This feature is found in the lower-left corner of the **Display** screen.

5. **Sensor Deployment Reports**

   This feature allows the user to view and print reports about Sensor deployment. The length of a report varies, depending on the amount of data collected from a specific WLAN site, including the number of Sensors, APs, etc. For instructions on how to use this feature, see page 11 of this *Release Notes*.

System Requirements

The installation and operation of AirMagnet Surveyor requires a laptop computer with the following ***minimum*** system requirements:

- Intel Pentium III at 1.6 GHz processor or higher;
- Microsoft Windows 2000/XP operating system;
- 256 MB of memory;
- 1 GB of free hard drive space;
- An AirMagnet-supported wireless networking (802.11a/b/ g) card. See the section "Supported Wi-Fi Devices".

Supported Wi-Fi Devices

An AirMagnet-supported 802.11 a/b/g wireless network card is required in order to install and operate AirMagnet Surveyor. AirMagnet Surveyor supports the following Wi-Fi cards:

- **Cisco Systems**
  - 802.11 a/b/g wireless adapter AIR-CB21AG –A-K9;
  - 350 802.11b PCMCIA wireless LAN adapter (AIR-LMC352, AIR-PCM352);
  - 350 mini PCI wireless LAN adapter (MPI350).
- **NETGEAR**
  - WG511U Double 108 Mbps wireless adapter;
  - WAG511 802.11 a/b/g wireless adapter;
  - WAG511 802.11 a/b/g (v2);
  - WAB501 802.11 a/b wireless adapter.
- **Enterasys**
  - Enterasys RoamAbout 802.11 a/b/g wireless LAN client adapter.
- **Nortel Networks**
  - Nortel Networks 802.11 a/b wireless adapter 2201.
- **Proxim**
  - ORiNOCO 802.11 b/g PC Card Gold (8470);
  - ORiNOCO 802.11 a/b/g ComboCard Gold (8480-XX);
  - ORiNOCO 802.11 a/b ComboCard Gold (8460-05).
- **AirMagnet**
  - Wireless Cardbus Adapter Super A/G (NL-5354CB PLUS ARIES2-F);
  - Wireless Cardbus Adapter Super A/G (NL-5354CB PLUS ARIES2);
  - Wireless Cardbus Adapter (NL-5354CB ARIES);
  - AirMagnet dual band 802.11 a/b wireless adapter (NL-5254CB).
- **3Com**
  - 3Com 11a/b/g Wireless PC card (3CRPAG175).
- **IBM**
  - ThinkPad Mini PCI a/b/g (Atheros AR5212 based chipset).
- **Symbol**
  - LA-5030 Wireless Networker 802.11 a/g Adapter.

Important Notes

- Obtaining a software license is an important part of the installation. Your installation cannot complete without a license file, which can be downloaded from AirMagnet.com. To download the license file, you must provide your product serial number and serial key. Both can be found inside the software package.
- In order to operate AirMagnet Surveyor in its full operation mode, make sure that your laptop has an AirMagnet-supported wireless card inserted in its wireless networking interface (unless it has an integrated Wi-Fi device), that a compatible wireless LAN card driver is installed, and that the device is enabled.
- Each software license entitles you to one typical installation and unlimited display-only installations. While the typical installation lets you access all the tools and features of the software offers, the display-only installation only lets you view survey data. Also, keep in mind that the product features vary depending on the version of the software, i.e., Pro vs. Standard.
- During the installation, the user is given three software license options:
  - **Tie the AirMagnet Surveyor license file to a laptop PC or tablet -** allows the user to run the software with different WLAN cards on a single laptop.
  - **Tie the AirMagnet Surveyor license file to a wireless card -** lets the user to use the same WLAN card on different machines.
  - **Install AirMagnet Surveyor for Display Only –** does not require a license file.
- Notes on the Use of the Cisco a/b/g card

  Running AirMagnet Active Tools with LEAP as the Security Mechanism

  To run AirMagnet active tools using a Cisco a/b/g card in a wireless network environment that uses LEAP as the security mechanism, the ADU (Aironet Desktop Utility) must be installed on the system on which the AirMagnet Surveyor is running.

  AirMagnet leverages on the Cisco Configuration Services (CCS) and the ADU in such a setup environment. Cisco's original software installation for the adapter includes the driver (original driver from the vendor which is overwritten during the AirMagnet Surveyor installation) and the client utilities (*see Cisco's Quick Start Guide*). This is in the form of single EXE for Windows. During the installation, both the ADU and the CCS are installed and initiated. The ADU is a GUI application that facilitates the configuration of profiles used by both the CCS and the driver. The user will also need to disable the Microsoft Wireless Configuration Manager to control the Cisco Aironet wireless LAN client adapter. AirMagnet allows the CCS to handle the authentication process with the authenticating server and associates with the desired AP. Once associated, the CCS will automatically perform LEAP authentication.

  To run AirMagnet active tools in the LEAP environment, the following requirements must be met:

  - On the ADU, select the profile where the LEAP configuration is set for the AP. Make sure that the profile is activated.
  - In the AirMagnet Configuration utility, the same LEAP configuration information for the AP also needs to be configured in the 802.11 tab of the Configure menu.

Note: *The LEAP Authentication status dialog box might pop up on the screen when a profile with LEAP configuration is selected from the Cisco ADU while running the AirMagnet Surveyor or an AirMagnet active tool. Click "Cancel" to close it.*

Running AirMagnet Active Tools without Security Configuration or with WEP as the Security Mechanism

To run the AirMagnet active tools in an Open or WEP-based environment, the following requirements must be met:

- On the ADU, create a new profile (e.g., "airmagnet") with no security parameters set for the AP. AirMagnet does not use the CCS for an Open or WEP-based environment. Use the "airmagnet" profile name to avoid any confusion with a LEAP profile.
- For a WEP-based environment, the WEP configuration for the AP needs to be configured in the 802.11 tab of the Configure menu.

Installation Procedures

- Insert a wireless network card in the wireless networking card slot on your laptop (unless the device is integrated in the system).

Note: *If a Windows "New Hardware Found" message pops up, click Cancel to skip the driver installation.*

- Insert the AirMagnet Mobile Suite software CD into the CD-ROM drive.
- Open your CD-ROM drive, and click AirMagnet Mobile Suite. The contents of the CD appear on the screen.
- Select and open the Surveyor folder.
- Click the **Setup.exe** file. The installation starts, and a welcome screen appears.
- Click **Next.** The software license screen appears.
- Click **Yes** to continue. The installation destination screen appears.
- Do one of the following:
  - To accept the default installation destination, click **Next.**
  - To choose a destination other than the default, click **Browse** to select the destination of your choice and then click **Next.**

    The software installation license option screen appears. See Figure 2-1.

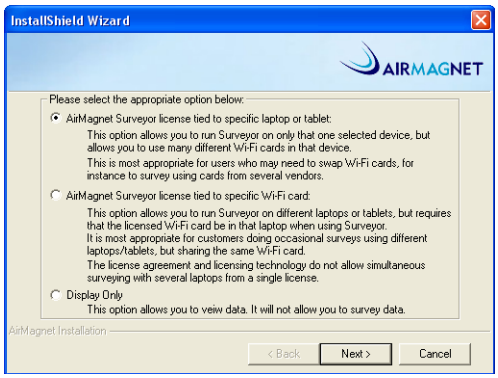

InstallShield Wizard
AIRMAGNET
Please select the appropriate option below:
AirMagnet Surveyor license tied to specific laptop or tablet:
This option allows you to run Surveyor on only that one selected device, but allows you to use many different Wi-Fi cards in that device.
This is most appropriate for users who may need to swap Wi-Fi cards, for instance to survey using cards from several vendors.
AirMagnet Surveyor license tied to specific Wi-Fi card:
This option allows you to run Surveyor on different laptops or tablets, but requires that the licensed Wi-Fi card be in that laptop when using Surveyor.
It is most appropriate for customers doing occasional surveys using different laptops/tablets, but sharing the same Wi-Fi card.
The license agreement and licensing technology do not allow simultaneous surveying with several laptops from a single license.
Display Only
This option allows you to veiw data. It will not allow you to survey data.
AirMagnet Installation
< Back
Next >
Cancel

Figure 1: Selecting a License Option

- Select one of the options as described on the screen, and click **Next.** A message box appears. See Figure 2.

Note: *The installation procedures hereafter will be slightly different depending on the software license option you select. The following screens and instructions apply when the first option* ***(AirMagnet Surveyor license tied to specific laptop or tablet)*** *is selected.*

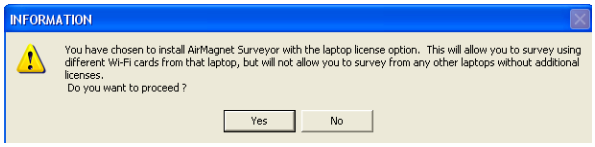

INFORMATION
You have chosen to install AirMagnet Surveyor with the laptop license option. This will allow you to survey using different Wi-Fi cards from that laptop, but will not allow you to survey from any other laptops without additional licenses.
Do you want to proceed ?
Yes
No

Figure 2: A License Message Box

- Click **Yes** to continue. See Figure 3.

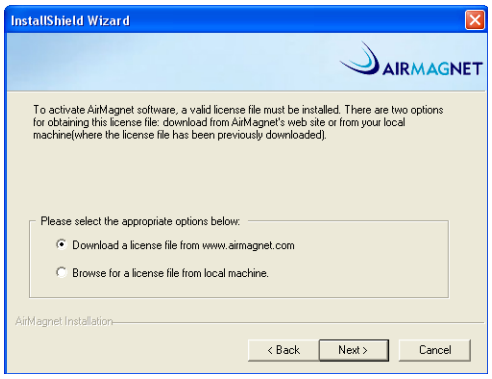

InstallShield Wizard
AIRMAGNET
To activate AirMagnet software, a valid license file must be installed. There are two options for obtaining this license file: download from AirMagnet's web site or from your local machine(where the license file has been previously downloaded).
Please select the appropriate options below:
Download a license file from www.airmagnet.com
Browse for a license file from local machine.
AirMagnet Installation
< Back
Next >
Cancel

Figure 3: Getting the Software License File

- Select one of the options as described in Table 1.

Table 1: Getting AirMagnet Surveyor License File

Option	Description
Download a license from www.airmagnet.com	If selected, AirMagnet Surveyor will automatically download the license file from www.airmagnet.com (AirMagnet's Web site).
Browse for a license file from local machine	If selected, you will be prompted to get the license file locally (from the laptop computer or from your corporate network). **Note**: Use this option only if you have a valid license file residing on the computer or on your corporate network.

- Click Next. The serial number and serial key screen appears. See Figure 4.

InstallShield Wizard
AIRMAGNET
Please enter the serial number and serial key provided inside the AirMagnet Enterprise package box OR from your "My AirMagnet" account from www.airmagnet.com. The MAC address of the wireless card will be detected automatically .
Please provide AirMagnet license information :
Serial Number :
Serial Key :
MAC Address :
00 : 00 : 39 : E0 : 17 : DD
AirMagnet Installation
< Back
Next >
Cancel

Figure 4: Entering the Serial Number and Key

Note: *Figure 4 applies when you choose* ***Download a license from www.airmagnet.com.*** *Select this option if you do not have a license file residing on the computer or on your corporate network.*

- Enter the serial number and serial key of your AirMagnet Surveyor, and click **Next.** The Wi-Fi card selection screen appears. See Figure 5.

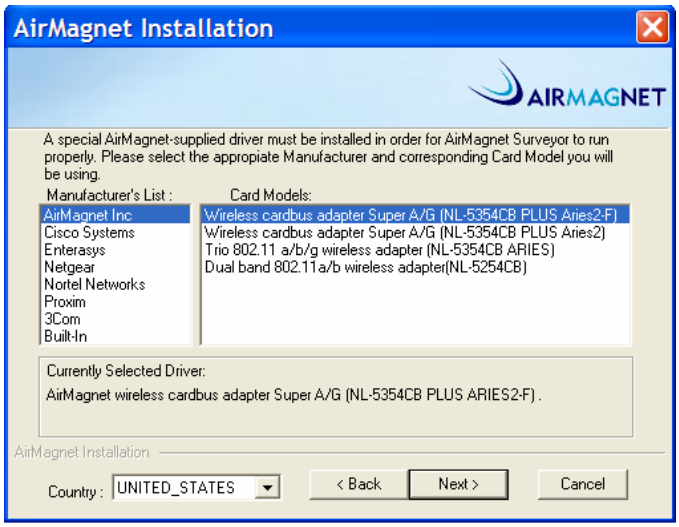

AirMagnet Installation
AIRMAGNET
A special AirMagnet-supplied driver must be installed in order for AirMagnet Surveyor to run properly. Please select the appropiate Manufacturer and corresponding Card Model you will be using.
Manufacturer's List :
Card Models:
AirMagnet Inc
Cisco Systems
Enterasys
Netgear
Nortel Networks
Proxim
3Com
Built-In
Wireless cardbus adapter Super A/G (NL-5354CB PLUS Aries2-F)
Wireless cardbus adapter Super A/G (NL-5354CB PLUS Aries2)
Trio 802.11 a/b/g wireless adapter (NL-5354CB ARIES)
Dual band 802.11a/b wireless adapter(NL-5254CB)
Currently Selected Driver:
AirMagnet wireless cardbus adapter Super A/G (NL-5354CB PLUS ARIES2-F) .
AirMagnet Installation
Country : UNITED_STATES
< Back
Next >
Cancel

Figure 5: Selecting a Wi-Fi Card

Note: *The serial number and serial key are printed on a small sticker which is shipped in the AirMagnet Surveyor product package.*

- Make the selections as described in Table 2.

Table 2: Selecting a Wireless LAN Card

Entry	Description
Manufacturer's List	The names of manufacturers whose wireless LAN cards are supported by AirMagnet Surveyor.
Card Models	The model(s) of the wireless LAN card by the manufacturer you select from the left.
Country	The country or region where the wireless LAN card is used.

Note: *Make sure that the wireless network card is supported by AirMagnet, is in good working condition, and is inserted in the wireless network card slot. The driver cannot be successfully installed* unless these conditions are met.

- Click **Next.** A message screen appears. See Figure 6.

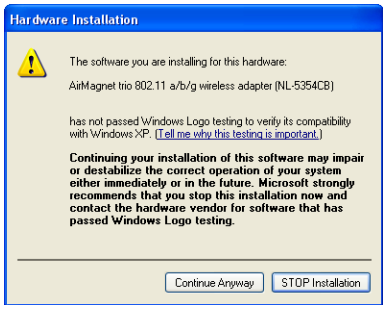

Hardware Installation
The software you are installing for this hardware:
AirMagnet trio 802.11 a/b/g wireless adapter (NL-5354CB)
has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)
Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
Continue Anyway
STOP Installation

Figure 6: A Driver Installation Message

- Click **Continue Anyway**. A message box appears. See Figure 7.

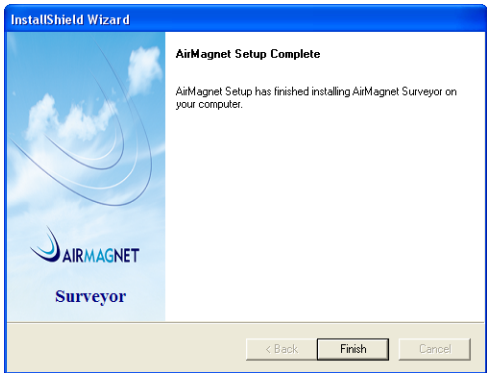


Figure 7: AirMagnet Setup Complete Screen

- Click **Finish.**

Product Registration

Registering your product will entitle you to expedient access to technical support and information on product updates and upgrades.

To register your AirMagnet Surveyor software:

1) Open your Web browser.
2) In the **Address** field, type http://www.airmagnet.com/support/register.php, and press the **Enter** key on your keyboard. This will open the *AirMagnet Product Registration* Web page.
3) Follow the instructions on the screen to complete the registration.

Software Updates

We are constantly enhancing and updating our products to provide our customers with the best WLAN technology solutions available on the market. To keep your software up to date, we strongly recommend that you visit our AirMagnet USER EXTRANET on a regular basis for product updates.

For more information, visit http://www.airmagnet.com/my_airmagnet/public/index.php.

Release History

Build 2.5-3622 (Patch)

- Fixed: Interference false account on Channel 14 (8842).
- Fixed: "Buffalo card: No AirMagnet wireless LAN card detected" (9404). The Start screen did not show when trying to run the AirMagnet application, after installing anew or updating the driver. It continued searching for the WLAN card for a few minutes and later showed the error message.

Build 2.5-3611 (Patch)

- Our new drivers now support the Cisco ADU v2. *Please note that our new drivers will not be backwards compatible with the old Cisco ADU*. See the Special Note. (7954)
- AP power is now displayed correctly. (In previous releases, if the user left the default AP power blank when creating a new project, it would be saved with an erroneous value.) (7686)
- Surveyor now is able to re-associate with the AP after the signal was lost. (In an earlier build, this was an issue with the Cisco a/b/g and the AirMagnet a/b/g cards.) (8280)

Build 2.5-3558 (Patch)

- Fixed the known issue that, in some cases, graphics was not displayed on the Reports screen.
- Fixed the problem where AP might appear on incorrect channel. (7812)

Build 2.5-3552 (Patch)

- The bug (7404) related to the Multi-Floor screen has been fixed. The program can now import multiple floor projects at one time.
- Various UI improvements have been made to the GPS tool screen.
- An improvement has been made to New Project Wizard screen. Now the floor plan image dimensions are no longer required. Instead, the user may use the Measure Mode tool to calibrate the floor plan before performing the survey.
- The bug (7529) related to the Display screen has been fixed. APs are now displayed on the correct channels.
- The bug (7381) related to the Cisco a/b/g card has been fixed. Re-association is now working properly with the Cisco a/b/g card with LEAP enabled.
- The bug (7523) related to the Simulation screen has been fixed. Power simulation is now more accurate after adding an AP.
- The bug (7105) related to the Simulation screen has been fixed. APs that have been added by using the 'Add Simulation AP' icon are displayed in the proper locations.
- The bug (7197) related to the Simulation screen has been fixed. The user can now allocate and/or Lock the channel for an AP that is marked as redundant.
- The bug (7126) related to the Simulation screen has been fixed. The Sim Power setting now defaults to the proper value as defined in AP default power setting.

Build 2.5-3535 (FCS)

This release has fixed the following bugs found in the previous release:

- On the Multi-Floor screen, the Interference, Signal, Signal/Noise and SNR views now work on all sub-projects (5918, 6202)
- There is now a bar displayed to indicate progress while loading large floor plans (5238).
- Refreshing the display no longer resets to the default zoom view (5901).

- Map import: added files of type ability to individually choose the image file formats instead of all of them listed together (5909).
- Simulated data files are now indicated with an 'S' (6019).
- A "Save As" option has been added to the Multi-floor mode (6002).
- GPS Survey: When configuring a new GPS survey project, the Outdoor option is now auto-selected.
- Added ability to use the Space Bar to mark the radio button for Survey Data in display mode (6005).
- Roaming improvements – now consistent with Cisco ADU (6340).
- Passive Survey AP list is now refreshing properly (6292).
- Improvements made to AP repositioning feature in Simulation (6940)
- GPS Calibration user interface improvements (5248)
- Warning message is now displayed when no valid signal data has been gathered. (5404)
- AP location and alias name is not saved after moving an AP in Simulation (7273)

Known Issues

1) Survey tool may ignore media type when a NetGear WG511U Wi-Fi card is used. (6592)
2) The user may experience some problem when using floor plans in .dwg or .dxf format. (6498)
3) The Survey and Performance tools may not work properly with a Cisco 802.11 a/b/g card if TKIP and LEAP data encryption are enabled.
4) The NetGear Client Utility software may not work with the AirMagnet driver for the WG511U adapter.
5) The user may experience some problem in associating with an AP using its SSID when the AP is not broadcasting its SSID (7692). The user may solve this problem by associating with the AP using its AP name or MAC address.
6) While on the Simulation screen, an added AP may not display when doing a copy (6934).
7) When the Cisco a/b/g card is used, signal strength may not be correct at the beginning of a passive survey (6865). The user may be able to solve this problem by letting the survey run for approximately 25 seconds before saving data points.
8) Symbol card doesn't report signal noise. This is a feature of the Symbol card itself.

Software Upgrade

Customers who are using AirMagnet Surveyor Standard and wish to upgrade to AirMagnet Surveyor Pro are encouraged to contact AirMagnet Technical Support for instructions on how to upgrade. While upgrading your software, be sure to remove the existing software and the license file associated with it. Otherwise, the software upgrade may fail.

Special Note

With the release of the new Cisco ADU version 2.1.0.2, the AirMagnet driver for the Cisco a/b/g card has been updated to support the new software. However, with this update, our driver will no longer work with the old version of Cisco ADU. If you are planning to use the Cisco a/b/g card with this patch, please install the Cisco ADU v2.

Technical Support

Technical support for registered AirMagnet products is available from the following sources:

- Phone: (877) 624-6385 (Toll-free), or (408) 400-0200 (Option 3), Monday through Friday, 6:00 AM - 6:00 PM Pacific Standard Time.
- Fax: (408) 744-1250
- Email: Support@AirMagnet.com
- Web: www.AirMagnet.com

Instructions for Using the New Features

- **Sensor Deployment Tool**

  To use the Sensor Deployment Tool:

  1) From the Display screen, select and load a survey data file.
  2) From the File Menu, enable the 'AirMagnet Sensor Deployment Mode' option.
  3) Then, from the Toolbar, select the Sensor Allocation button ( ). The Sensor Allocation dialog box appears. See Figure 8.

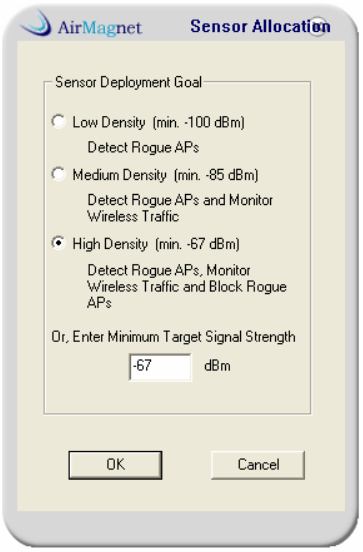


Figure 8: Sensor Allocation

  4) From the Sensor Allocation dialog box, select a Sensor Deployment Goal and click **OK.**
  5) Next, from the Toolbar, click the Allocate Sensor button ( ).

Note: *You will see Sensor icons where they are supposed to be deployed according to the Sensor Deployment Goal you have selected. Some fine-tuning may be necessary to accommodate for the building structure, etc. In the lower left-hand corner of the Survey screen, you will notice a list of APs that are not covered by the Sensors. See Figure 9. To accommodate these uncovered APs, you may need to relocate the sensors so that all APs disappear from the list, meaning that they are all covered by the Sensors.*

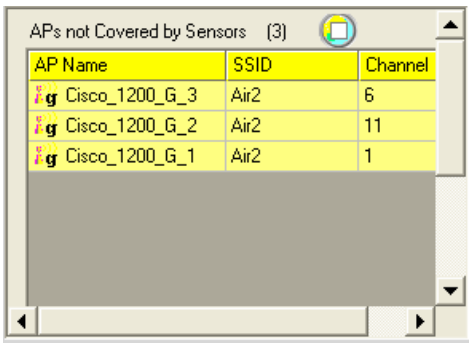


Figure 9: List of Uncovered APs

- **New Tools for Sensor Deployment**

  Surveyor 2.5 comes with a number of new tools that facilitate Sensor deployment. Figure 10 below is a variation of the Toolbar when the Sensor Deployment feature is selected. Table 3 describes the key function of each of these tools.

Figure 10: Toolbar

Table 3: Tools Used for Sensor Deployment

Button	Tool Name	Description
	Allocate Sensor	Automatically assigns Sensors to their desired locations.
	Reset/Redo	Allows the user to undo or redo a sensor deployment scenario.
	Rectangle Region	Allows the user to designate a rectangular area on the floor plan where Sensor coverage is desired.
	Allocation Option	Opens the Allocation Option dialog box where the user can select a Sensor Deployment Goal.
	Arbitrary Region	Allows the user to make a freehand selection of an area on the floor map where Sensor coverage is desired.
	Eraser	Erases the designated coverage area specified using the Rectangular/Arbitrary Region Tools.
	Clear	Remove/delete Sensor icons from the floor map.
	Add Sensor	Allows the user to add Sensors to the floor map.

- **Sensor Deployment Reports.**
  There is now a Sensor Deployment Report available from the Reports page. It includes sensor placement locations (on the floor plan) as well as a list of APs covered and ***not*** covered.

  To access the Sensor Deployment Reports:

1. From the Navigation Bar, click Report. The Report screen appears.
2. From the report list, click Sensor Deployment Report. See Figure 11.

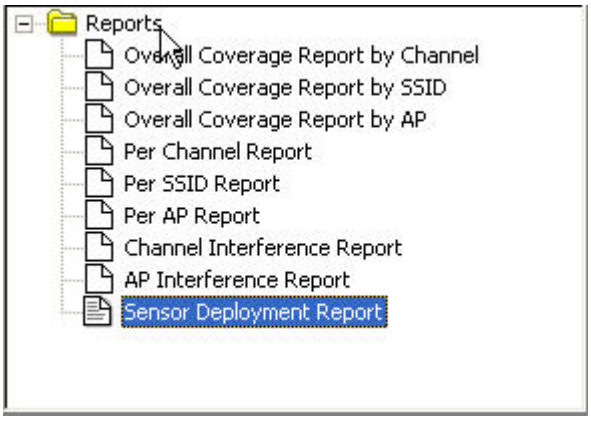
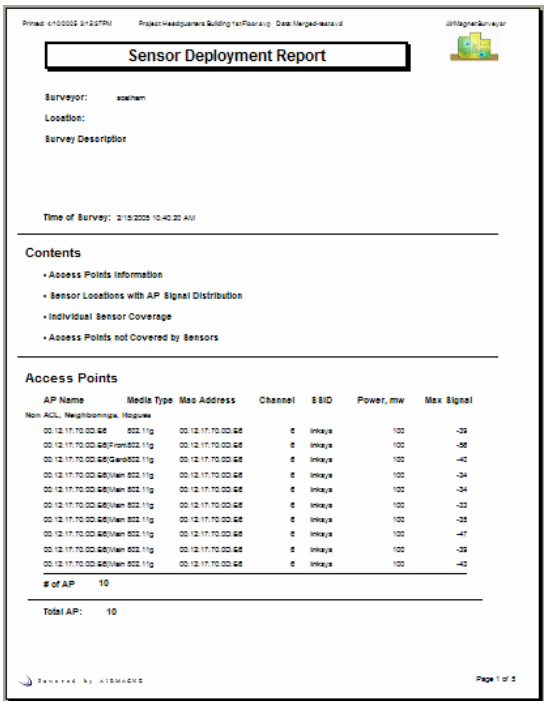


Figure 11: Select Senor Deployment Report

3. Use the buttons across the top of Reports screen to view and print the reports.

Note: *Below are some sample pages of a Sensor Deployment Report.*


Sensor Deployment Report

Surveyor:

Location:

Survey Description

Time of Survey:

Contents

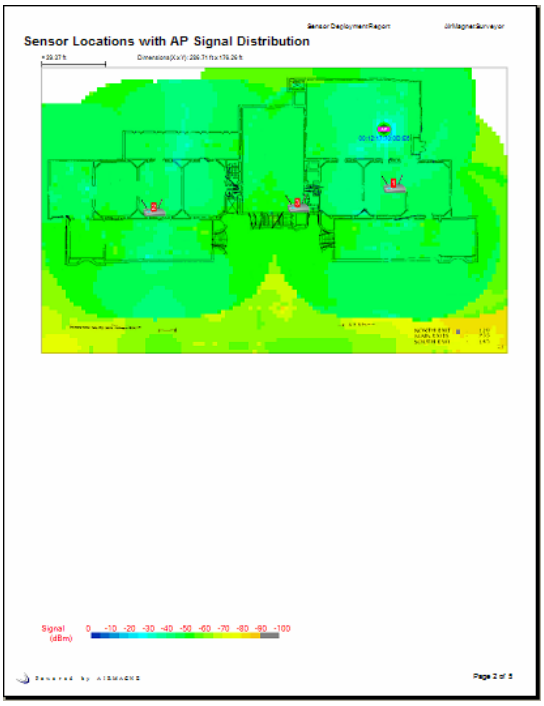
- Access Points Information
- Sensor Locations with AP Signal Distribution
- Individual Sensor Coverage
- Access Points not Covered by Sensors

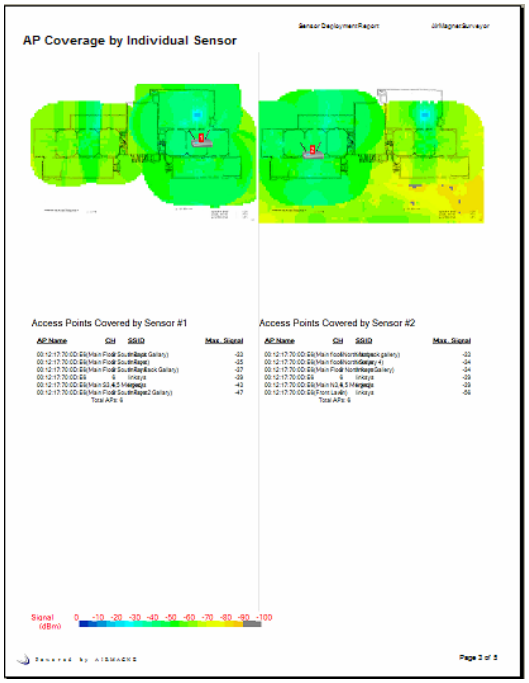
Access Points

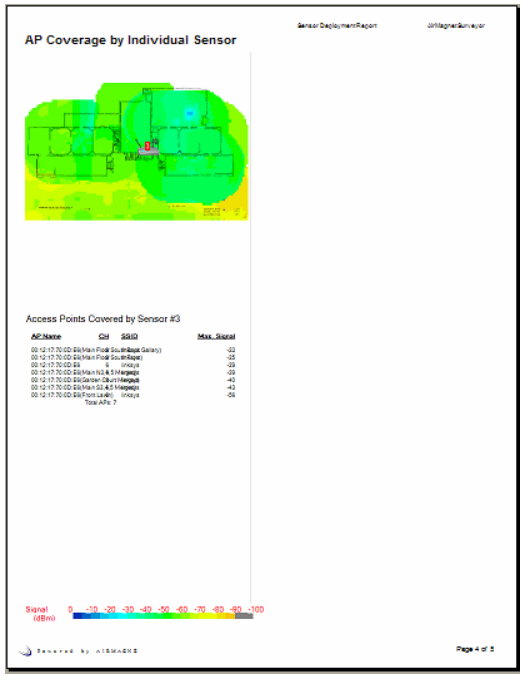
AP Name	Media Type	Mac Address	Channel	SSID	Power, mw	Max Signal

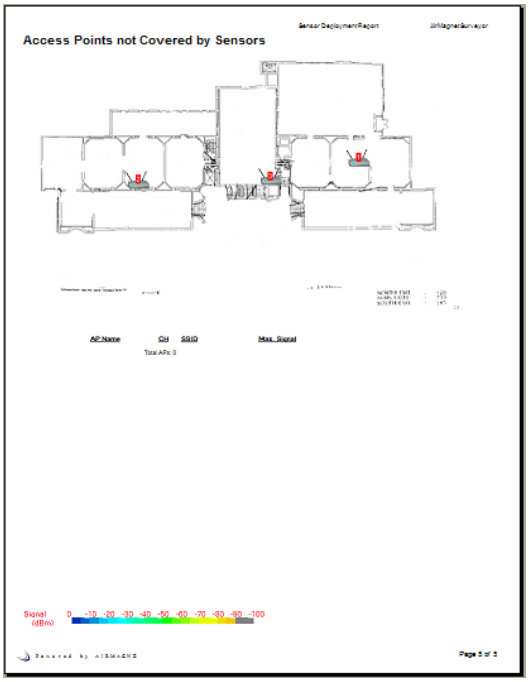
# of AP 10

Total AP: 10









- **Data Processing Option**
  This new feature allows the user to select a data processing resolution which affects the speed AirMagnet Surveyor processes/opens a data file.

  To customize the data processing speed:

1. From the Display screen, click **File>configure….** The AirMagnet Surveyor Configuration dialog box appears. See Figure 12.

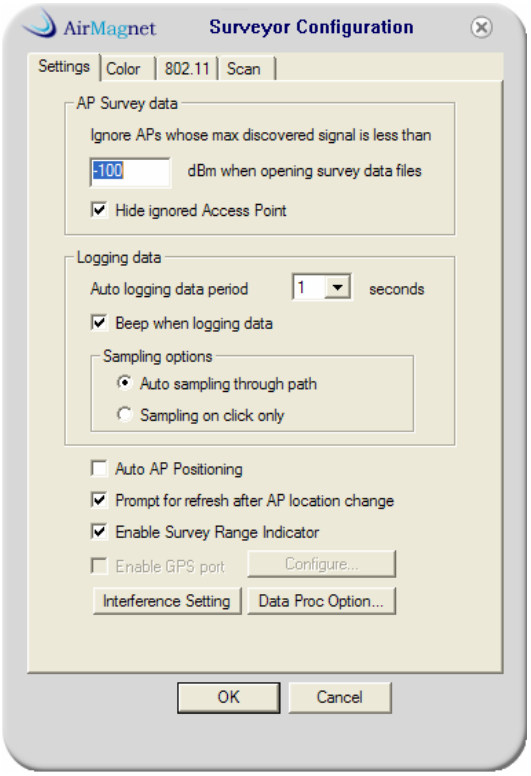


Figure 12: Select Data Processing Option

2. Click Data Proc Option…. The Data Processing Option dialog box appears. See Figure 13.

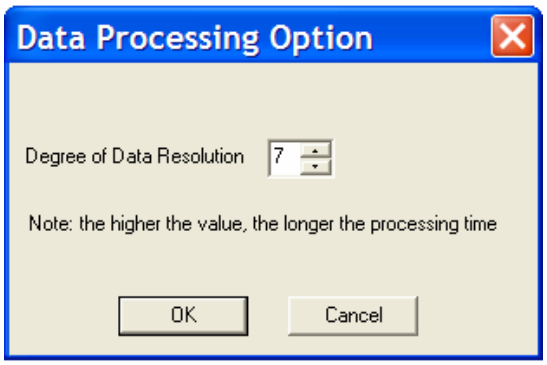


Figure 13: Data Processing Option

3. Select a value of resolution and click **OK.**

***Note**: The selection you make here will affect the speed at which data files are loaded. The Degree of Data Resolution ranges from 1 to 10, with 10 being the highest. The higher the resolution, the better the image quality; the better the image quality, the more time it takes to process the data.*

- **Viewing AP Coverage by a Sensor**

  To view the AP coverage area of an individual Sensor:

  1. From the File Menu, enable the 'AirMagnet Sensor Deployment Mode' option.
  2. Click the Allocate Sensor button ( ). Sensor icons appear on the floor map.

3. Right-click a sensor and select AP Coverage by This Sensor from the pop-up screen. See Figure 14.

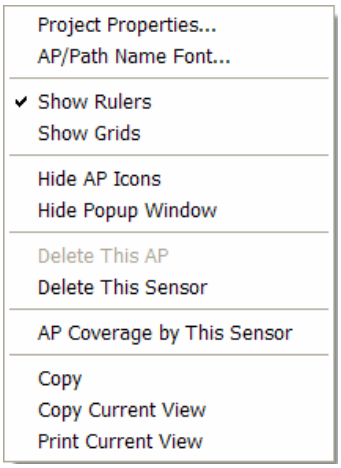


Figure 14: Viewing a Sensor Coverage Area

4. The program will automatically map out the area covered by the selected Sensor. See Figure 15.

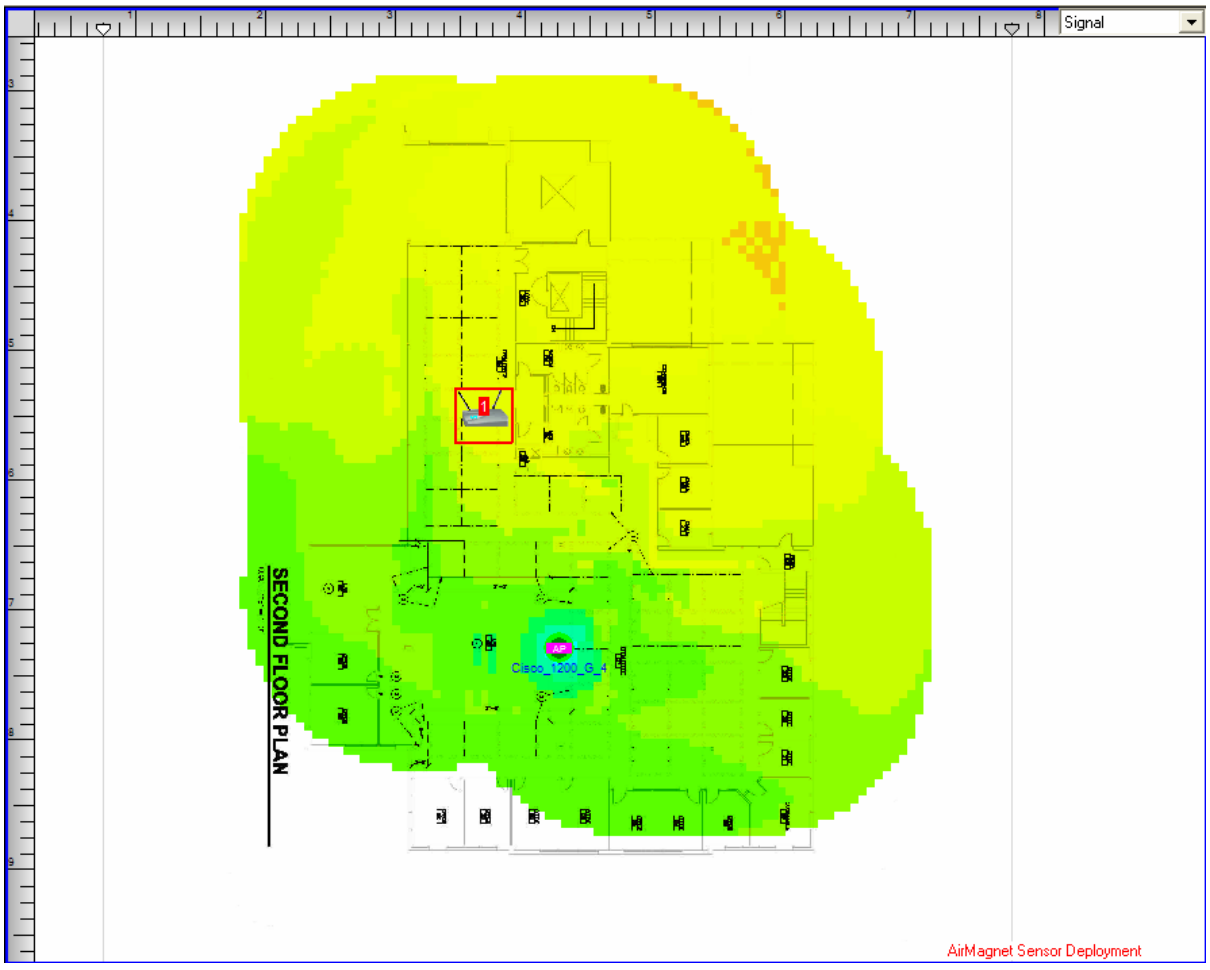


Figure 15: AP Coverage by This Sensor